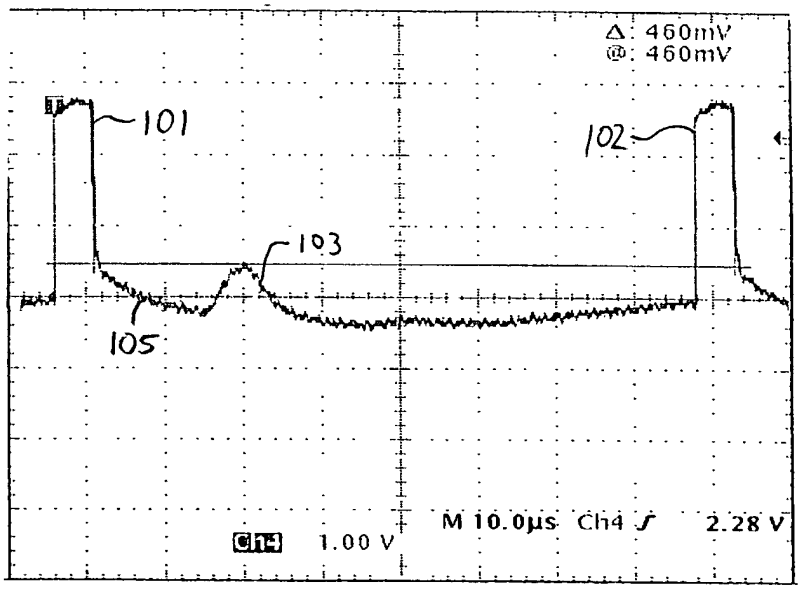

Figure 1

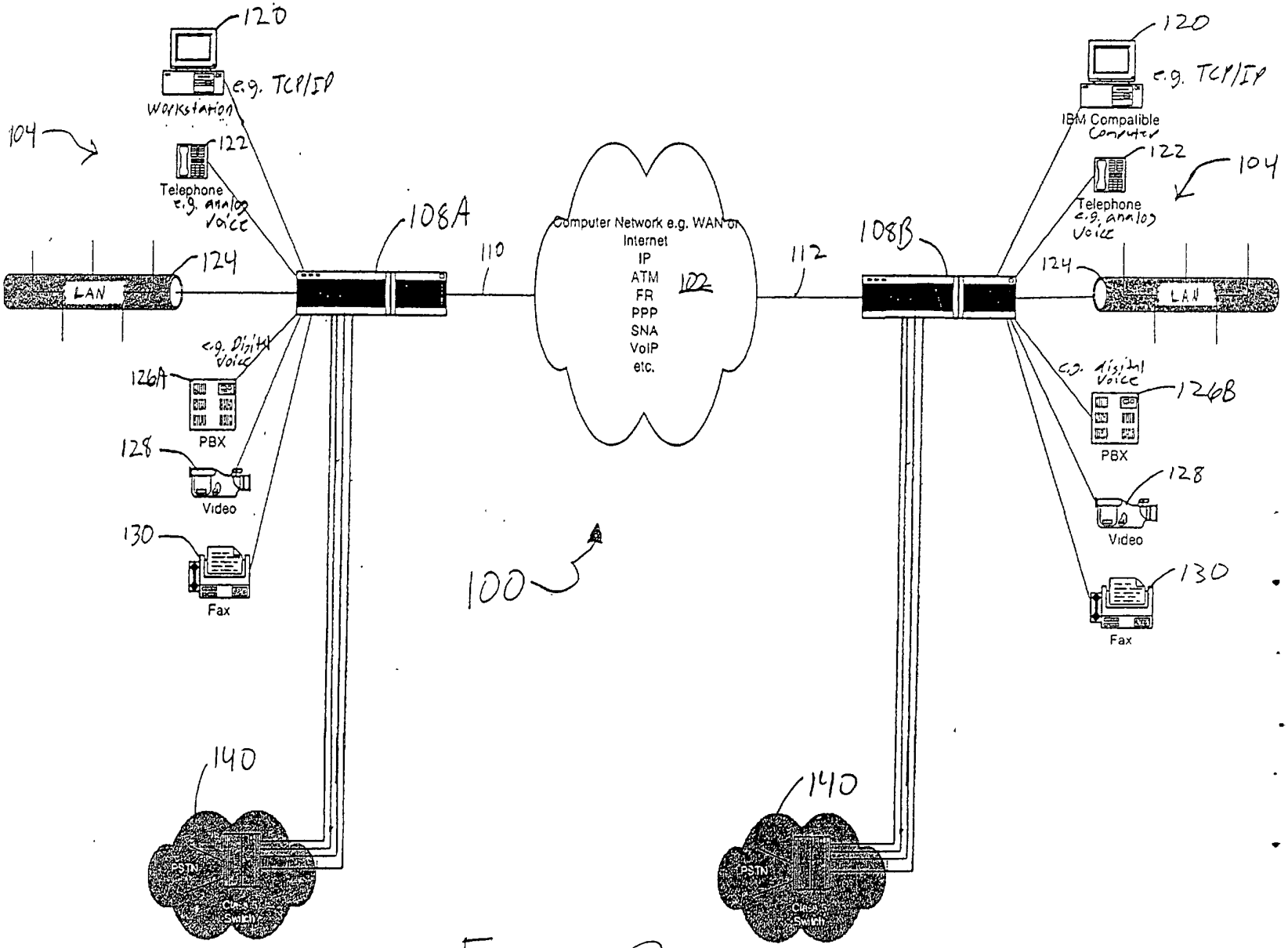
120
e.g. TCP/IP
Workstation
104
122
Telephone
e.g. analog
Voice
124
LAN
108A
110
Computer Network e.g. WAN or
Internet
IP
ATM
FR
PPP
SNA
VoIP
etc.
102
112
108B
120
e.g. TCP/IP
IBM Compatible
Computer
122
104
Telephone
e.g. analog
Voice
124
LAN
e.g. Digital
Voice
126A
PBX
128
Video
130
Fax
100
e.g. Digital
Voice
126B
PBX
128
Video
130
Fax
140
PSTN
Circuit
Switch
140
PSTN
Circuit
Switch

Figure 2

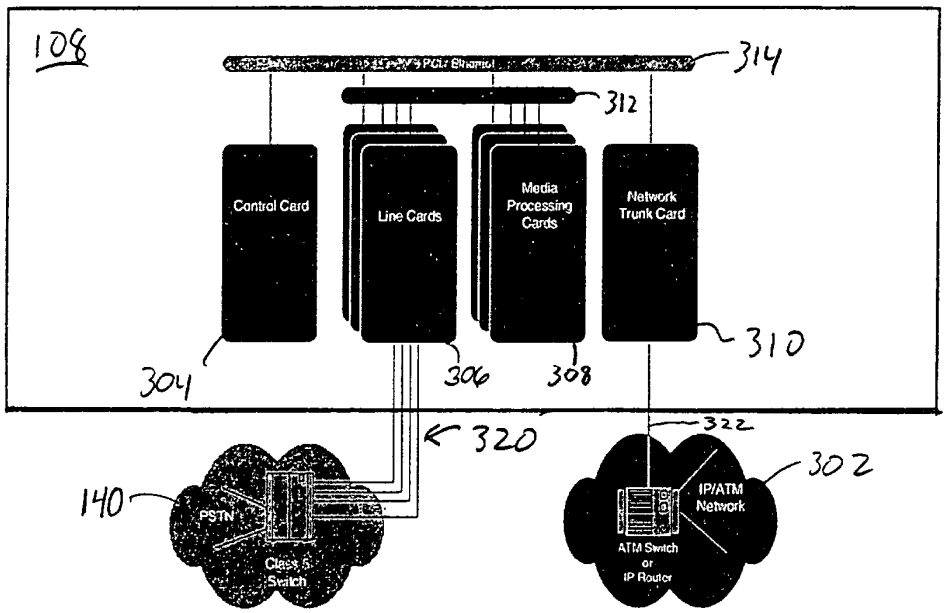

Figure 3

20060473 - 022202

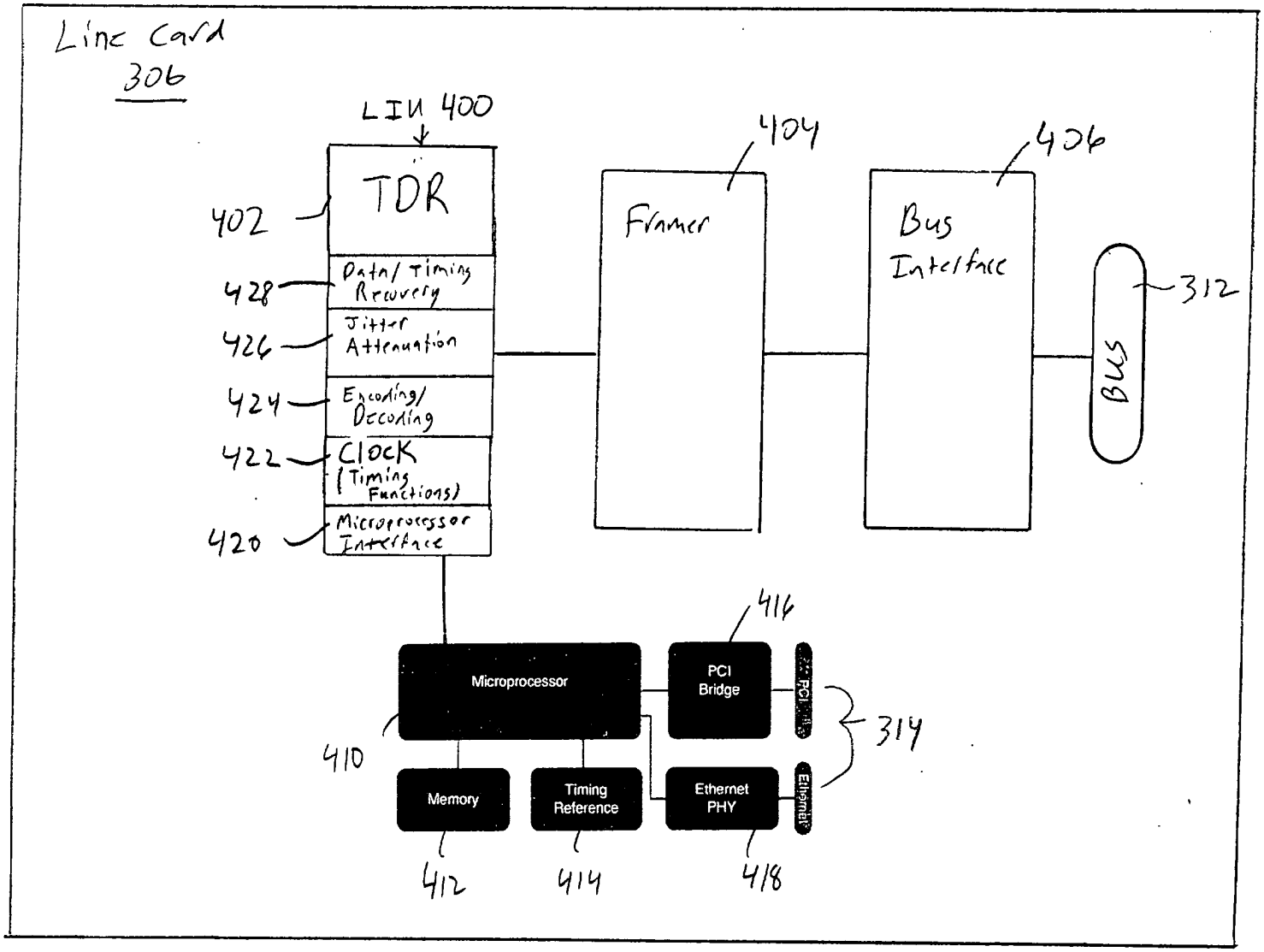

Figure 4

10030473 - 092202

402

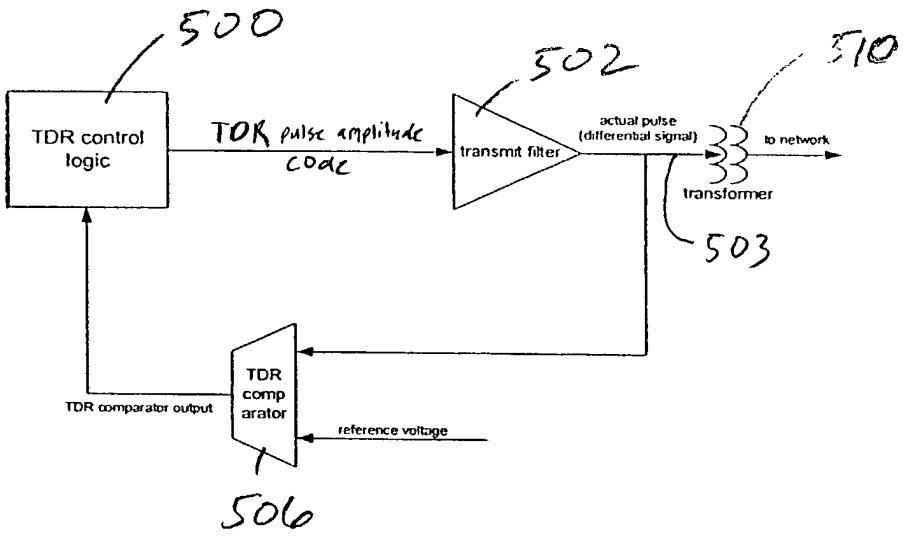
500
502
510
TDR control logic
TDR pulse amplitude code
transmit filter
actual pulse (differential signal)
to network
transformer
503
TDR comparator output
TDR comparator
reference voltage
506

Figure 5

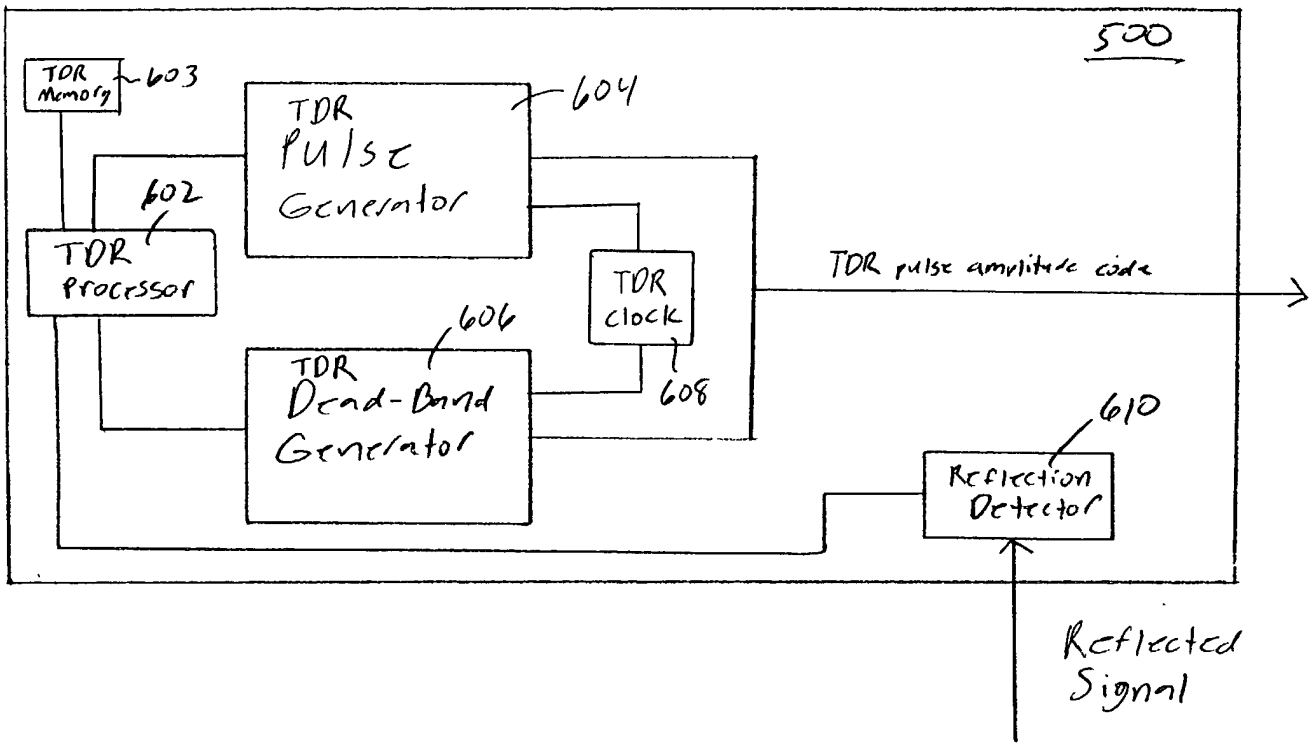
500
TDR Memory
603
TDR Pulse Generator
604
602
TDR Processor
TDR clock
TDR pulse amplitude code
606
TDR Dead-Band Generator
608
610
Reflection Detector
Reflected Signal

Figure 6

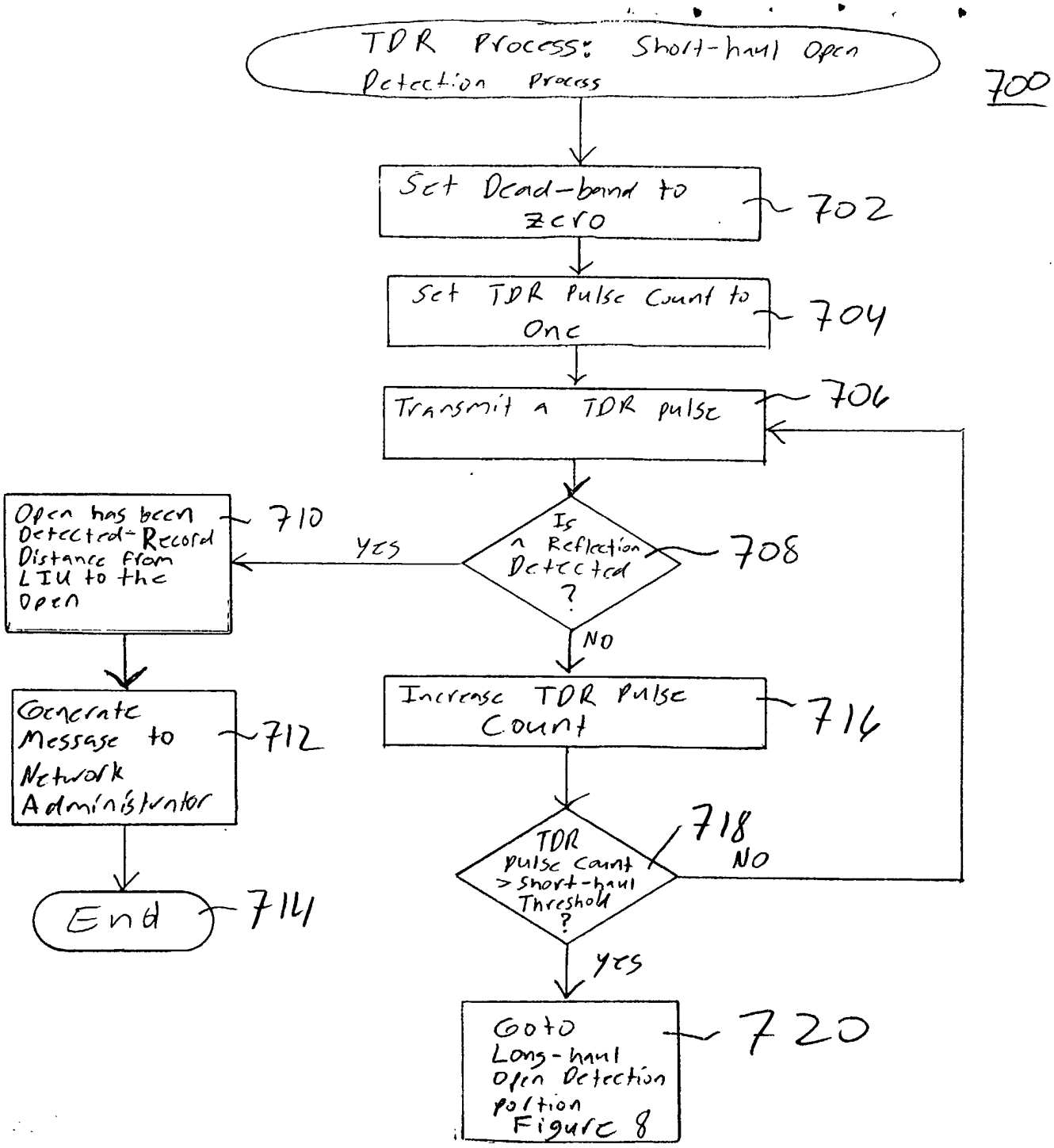
TDR Process: Short-haul Open Detection Process
700
Set Dead-band to zero
702
Set TDR Pulse Count to One
704
Transmit a TDR pulse
706
Is a Reflection Detected ?
708
yes
Open has been Detected - Record Distance from LIU to the Open
710
Generate Message to Network Administrator
712
End
714
NO
Increase TDR Pulse Count
716
TDR Pulse Count > Short-haul Threshold ?
718
NO
yes
Goto Long-haul Open Detection portion Figure 8
720

Figure 7

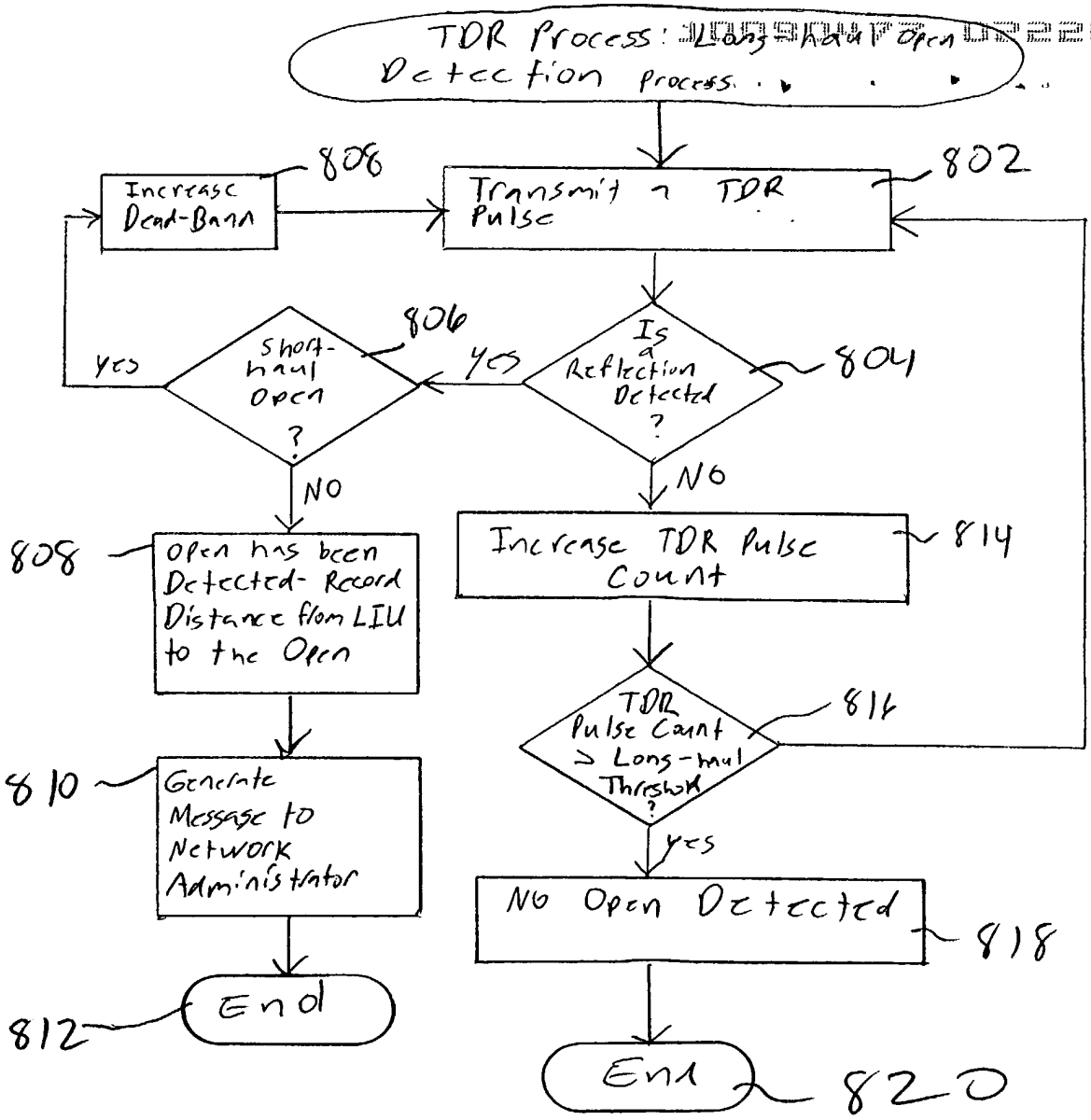
TDR Process: Long-haul Open Detection process
800
Transmit a TDR Pulse
802
Is a Reflection Detected ?
804
YES
Short-haul Open ?
806
YES
Increase Dead-Band
NO
Open has been Detected- Record Distance from LIU to the Open
808
Generate Message to Network Administrator
810
End
812
NO
Increase TDR Pulse Count
814
TDR Pulse Count > Long-haul Threshold ?
816
YES
No Open Detected
818
End
820

Figure 8